purposes, applicants request that Examiner state the basis for restriction of the claims 29-31.

Applicants confirm the provisional election to prosecute the invention of Species C, claims 3 through 19; including two new dependent claims 32, 33, added with this response. The election is made with traverse, on the basis that a search of the prior art relating to any of the Species would uncover the relevant art relating to the other two species. This being the case, it would be appropriate, and efficient for the PTO to consider all three species at one time.

Applicants have amended withdrawn claim 26, so that it and dependent claims 27-28 are now within Species C. Accordingly withdrawal of the restriction requirement for claims 26-28 is requested.

Applicants have also amended withdrawn claims 29, 30, so that they and dependent claim 31 are now within Species C. Accordingly withdrawal of the restriction requirement for claims 29-31 is requested.

4. Applicants amend the specification, to respond to office action paragraph 6, as shown on the mark up attachment.

5. Claim 3 has been amended to correct the drafting error which the examiner pointed out.

6. With respect to office action paragraphs 8-10 and the 35 USC 112 rejection, wherein it is said that the terms Soil Threshold Angle (STA) and Repose Angle (RA) are said to be not ascertainable (paragraph 9) and as being unclear (Paragraph 11):

Please refer to the specification (page 10 line 2 of the last paragraph, also the entire last paragraph on page 10 and the first paragraph on page 12 taken with associated Figs 6,8,11 and 12) where STA is fully described. Nonetheless, applicants have amended claims relate to STA, although they think it is not required since the term used in the claim is fully described in the specification.

The term Soil Threshold Angle is described (penultimate sentence at the bottom of page 10) as being a property of the chamber perforation. The STA for any particular chamber is determined by measurement of the perforations, or the associated mold tooling, in accord with what is taught by the specification and text-referenced drawings including Fig. 6. STA is the angle between the horizontal and a line connecting the upper edge of the outer opening of the perforation and the lower edge of the inner opening by the perforation.

The term Repose Angle or Angle of Repose is a well known term of art in civil engineering and soil mechanics, for describing a property of particulate material. A specification does not need to define such a term for one of ordinary skill. Nonetheless, the term is defined in the first paragraph on page 11, second and third sentences. The term "angle of repose" appears in the abstract of over 100 patents, including No. 6,884,509 and 6,523,726. Seven abstracts use the interchangeably term "repose angle." See No. 5,341,963. Applicant appends an on-line dictionary print out, also showing the meaning of the term.

Applicants therefore submit the specification is enabling and the claims are not indefinite.

7. With respect to paragraphs 11 through 14 of the office action where the claims are rejected case under 35 USC 103(a) as being obvious in view of the Patent to Maestro, US Patent 6,612,777, hereinafter Maestro:

a. Applicants have amended their claims and argument is now addressed to them as such.

b. Applicants assert that Claim 3 as now amended is not obvious and is patentable over the Maestro patent.

The Office Action asserts that perforations 20,38 in Maestro constitute a plurality of perforations as recited in present claim 3 and that the statement in Maestro (Col. 5 lines 9 through 11) "The wall thickness of the chamber may be uniform throughout or varied to achieve structural reinforcement in specific areas.".

Applicants disagree. Maestro makes no suggestion to vary thickness in any particular direction relative to location. Maestro's words do not teach varying thickness with height on sidewalls having perforations. It is not obvious where there is any weakness to correct. The rejection says it would be obvious to reinforce the top. Respectfully, there is no teaching from Maestro or elsewhere that the top is a weaker location. In fact, since the lower parts of the sidewall of an arch shape cross section chamber have to support the load from above, the lower parts ought to be thicker. The St. Louis arch is an exemplar.

With respect to perforations 20, 38 of Maestro, Applicants have amended Claim 3 so that it now requires that the perforations slope downwardly from the interior of the chamber to the exterior of the chamber. This key to the achievement of an objective of the invention – that soil not enter into the chamber through the sidewall perforations (page 1 1 first paragraph, first sentence; page 4 second paragraph, last sentence).

Perforations 38 of Maestro do not penetrate the chamber wall at a downward angle from the chamber interior to the chamber exterior. See Maestro Fig 5 which shows aperture 38 passing through the chamber wall at in a horizontal direction. See also Fig 6 which shows that apertures 38 are used to connect adjacent leaching chambers with short lengths of tubing – for such a horizontal interconnection system, horizontally oriented perforations 38 are appropriate. See Maestro Fig. 6. Maestro's perforations 20 are not described in detail, but there is no suggestion that they are downward sloping, nor that they would be used for leaching chamber purpose. Thus the present invention with downwardly sloping chamber perforations are not shown or suggested in the Maestro reference.

Applicants also reiterate that the downwardly sloping apertures of their invention serve an important function of keeping soil from infiltrating into the chamber. Maestro says nothing about soil infiltration, and teaches nothing about soil infiltration because the Maestro chamber is not buried directly in soil, rather it is placed in a trench and then covered with "crushed rock or coarse gravel" and "covered with filter fabric ..." (see Maestro Col. 8, lines 29 – 34). Thus Maestro relies on filter fabric, also known as geotextile and mentioned as being undesirable in the present application (page 1 last paragraph, second and third sentences). As Maestro's background and description make clear, his product is used for receiving stormwater and handling the sediment in the stormwater. See also Fig 4 and the associated discussion at Col. 4 lines 46 – 64 which make it clear that the exterior of the Maestro chamber as used in service is free from soil (otherwise the fluid flow in the direction 36 could not occur).

For these reasons, Applicants are convinced that Maestro does not make the present invention, as now claimed in Claim 3 obvious in the sense required by 35 USC 103(a).

d. Since the remaining claims, 3-19, all depend from Claim 3 (directly or indirectly), and further limit Claim 3, they are all patentable if Claim 3 is patentable.

e. Notwithstanding, certain of the dependent claims have additive novelty and patentabilility, when combined with the matter in the parent claim. Applicant submits argument as follows:

In the rejection, on page 7, Examiner asserts that Maestro shows:

horizontal slots, claim 10
horizontal slots, where the slot height changes with elevation, claim 11
the direction and type of height and thickness changes of claims 12 and 13
any flaring shape of perforations, as in claim 14

However, applicant cannot find such things in Maestro and the examiner has not said where she finds them. Examiner is requested to support the rejection with specifics if she continues on the same grounds.

f. Examiner says that applicant's particular designs, claimed in the dependent claims, do not set forth the unexpected advantage and criticality of the invention, in its particular dimension. Fig. 13 and Fig. 14 show the result of the combination of features provides unique chambers; and the invention achieves the benefits of the objects of the invention set forth in Summary at the bottom of page 2. Furthermore, the unexpected results are seen in the second two paragraphs on page 4. See the last two paragraphs on page 14. See the second full paragraphs on page 16.

g. With regard to claim 15, the combination of volume and leaching area to weight ratio is not heretofore known to be possible, and provides the unexpected benefit of functionality, cost, etc., which are set forth on page 16 and elsewhere.

With regard to claim 18, at least it is novel for the same reasons as claim 14.

8. Applicants respectfully request allowance of the pending claims, along with allowance of the withdrawn claims which are hereby amended.

Respectfully submitted,
R. BROCHU ET AL.

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Box 1450, Alexandria, VA 22313 on February 9, 2006.

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C. G. Nessler